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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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10/569,510

07/24/2006

Hans Sigrist

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EXAMINER

HUTCHINSON, SHAWN R

ART UNIT

PAPER NUMBER

1794

MAIL DATE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--|---------------------------------------|--|
| Office Action Summary | Application No. 10/569,510 | Applicant(s) SIGRIST ET AL. | |
| | Examiner SHAWN R. HUTCHINSON | Art Unit 4174 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,5,14-21,25,32-34,37,52,53,59 and 60 is/are pending in the application.
- 4a) Of the above claim(s) 1,2,4,5,14-21,25 and 32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 33,34,37,52,53,59 and 60 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 February 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>02/27/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's election without traverse of Group II, "A yarn or textile product," Claims 33, 34, 37, 52, 53, 59, & 60 in the reply filed on 16 November 2007 is acknowledged. Group I consisting of Claims 1, 2, 4, 5, 14-21, 25, & 32 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected "Method of providing a yarn or textile product," there being no allowable generic or linking claim. Election was made **without** traverse. The requirement is deemed proper and is therefore made FINAL.

Information Disclosure Statement

2. The information disclosure statement filed 27 February 2006 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the lined information therein w not considered.

Drawings Objections

3. **Figures 1A & 1B** are objected to under 37 CFR 1.83(a) because they fail to show sufficient detail to discern whether treatment does not "alter the appearance and textue of the sample" as described in the specification [0120]. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). **Figures 2-4** are objected to because the resolution

and contrast of the figures renders the charts illegible. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 33, 34, & 59 are rejected under 35 U.S.C. 102(b) as being anticipated by Sigrist et al. {Sigrist} (*JPP*).

Sigrist teaches the covalent photo-linking of a hetero-bifunctional crosslinker (functionally equivalent to Applicant's "linker" molecule) to glass fiber. Carbenes were then photo-generated on the grafted crosslinker and used to covalently attach to amino acids ({Sigrist} Page 277-8).

6. Claims 33, 34, 37, 52, 53, 59, & 60 are rejected under 35 U.S.C. 102(b) as being anticipated by Mooradian et al. {Mooradian} (US 5853744 A).

Mooradian teaches covalently binding linking molecules to a fibrous substrate (textile product) and photo-activating the linking molecule to generate carbene functional groups to further attach to a biomolecule, which includes enzymes and growth hormones ({Mooradian} C2:L35-C3:L60 | C7:L34-C8:L18). Regarding Claims 52 & 53, the preparation of some biomolecules involves "smoothly" cleavable sites and groups under implicitly "predetermined" conditions ({Mooradian} C5:L10-59) whose type ipso facto corresponds with Applicant's definition of "biostystem" ({Applicant} [0049-0054]).

Applicant claims subject matter broadly and Mooradian teaches the requisite components of the invention in detail and with sufficient specificity the envisaged embodiments to warrant anticipation.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 37, 52, 53, & 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sigrist et al. {Sigrist} (*JPP*) in view of Mooradian et al. {Mooradian} (US 5853744 A).

As discussed above, Sigrist teaches covalent photo-linking of a hetero-bifunctional crosslinker to glass fiber ({Sigrist} Page 277-8). Sigrist is silent regarding selective cleavage of the non-linker molecule, induced by a biosystem, and under predetermined conditions.

As discussed above, Mooradian teaches covalently binding a linking molecule to a fibrous substrate (textile product) and photo-activating the linking molecule to generate carbene functional groups to further attach to a biomolecule, ({Mooradian} C2:L35-C3:L60 | C7:L34-C8:L18). In order to functionalize the substrate, the

Art Unit: 4174

preparation of some biomolecules involves “smoothly” cleavable sites and groups under implicitly “predetermined” conditions ({Mooradian} C5:L10-59) whose type corresponds with Applicant’s definition of “biostystem” ({Applicant} [0049-0054]).

At the time of the invention, it would have been obvious to one of ordinary skill in the art to use a linking molecule with cleavage site that is induced in a biosystem under predetermined conditions {Mooradian} in the covalent photo-linking of a hetero-bifunctional crosslinker to glass fiber {Sigrist}. The motivation would have been to functionalize the substrate for biomedical applications (C1:L7-C2:L33 | C5:L36-59). Thus, it would have been obvious to combine Sigrist with Mooradian to obtain the claimed invention.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892 for additional information.

Conclusion

Any inquiry concerning this communication should be directed to SHAWN R. HUTCHINSON whose telephone number is (571)270-1546. The examiner can normally be reached on 7 AM to 5 PM, M-H.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197. If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 or 571-272-1000.

/D. Lawrence Tarazano/
Primary Examiner, Art Unit 4174

/Shawn R. Hutchinson/
Examiner, Art Unit 4174